



---

**west virginia department of environmental protection**

---

Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304  
Phone 304/926-0475

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

**GENERAL PERMIT REGISTRATION APPLICATION  
ENGINEERING EVALUATION / FACT SHEET**

**BACKGROUND INFORMATION**

Registration No.: G50-B107  
Plant ID No.: 065-00027  
Applicant: Heeter Geotechnical Construction LLC  
Facility Name: Cacapon State Park  
Location: Berkeley Springs, Morgan County, WV  
SIC / NAICS Code: 2379 / 237990  
Application Type: Construction  
Received Date: September 07, 2016  
Engineer Assigned: Thornton E. Martin Jr.  
Fee Amount: \$500.00  
Date Received: September 12, 2016  
Complete Date: October 17, 2016  
Applicant Ad Date: August 31, 2016  
Newspaper: *The Morgan Messenger*  
UTM's: Easting: 732.55 km    Northing: 4375.85 km    Zone: 17  
Description: Applicant proposes the construction and operation of a temporary concrete batch plant utilizing a pug mill mixer with a maximum production rate of 58 tons per hour and 5,600 tons per year for completing the roller compacted concrete work for Cacapon State Park.

**PROCESS DESCRIPTION** (taken from the Application)

The pug mill mixer is designed to be a temporary installation and to have only particulate emissions.

The incoming sand and aggregate will be stored in stockpiles onsite, adjacent to the batch plant. An end loader will move the sand and aggregate and load into elevated storage bins in the batch plant. Cement will be supplied from a completely enclosed truck and transferred pneumatically into a storage silo equipped with a baghouse. The cement, sand, aggregate and water will be proportioned in a weight batcher, which will then discharge the materials into the pug mill mixer.

The pug mill mixer will be erected on a stone pad with graveled and asphalt roadways. Sand and aggregate will be supplied to the site by triaxle (12 tires) dump trucks from the local supplier and stored in the stockpile storage area. Cement will be delivered in fully enclosed pneumatic tankers.

The end loader will be moving at less than 3 miles per hour between the stockpiles and the storage bins. The trucks will be hauling sand and aggregate to the stockpile areas as needed. All

material handling operations for the pug mill mixer will be within the site. The operation will implement fugitive dust control for the truck traffic via water trucks or other approved suppressive methods. The moisture content of the sand and aggregate will minimize fugitive dust emissions from material handling operations.

Heeter Geotechnical Construction LLC proposes to utilize the following equipment at the Berkeley Springs location in Morgan County, WV:

Table 1: Equipment List

Equipment ID No.	Description	Maximum Production Rate		Control Equipment <sup>1</sup>
		Hourly	Annual*	
CM-1	TBD - Pug Mill	58 tons	5,600 tons / yr	FE
WH-1	TBD - Weigh Hopper	5.2 tons	5,000 tons / yr	PE
BC-1	Belt Conveyor	5.2 tons	5,600 tons / yr	FE
TB-1	Telebelt	58 tons	5,600 tons / yr	MC
<b>Storage</b>		<b>Storage Capacity</b>	<b>Maximum Yearly Throughput</b>	
E3-1	Stockpile – Sand	26 tons	2,500 tons / yr	PE
E3-2	Stockpile – Aggregate	26 tons	2,500 tons / yr	PE
BS-1	Storage Silo – Cement	5 tons	500 tons/yr	APCD-1

<sup>1</sup> FE - Full Enclosure; PE - Partial Enclosure; APCD-1 - Dust Collector; MC - Moisture Content;  
 \* Based on 96 maximum operational hours annually

#### DESCRIPTION OF FUGITIVE EMISSIONS (taken from the Application)

This pug mill mixer has several sources of potential emissions of particulate matter (PM). The following sections describe each potential source of emissions and methods developed to control these emissions.

Haul Roads: The plant will be constructed on a unpaved section of the property and the haul roads will be compacted dirt. A water truck will be employed to water the haul roads on an as-needed basis to control dust. During dry periods, the haul roads will be watered initially during the day and watered once every two hours thereafter while in use with an application rate of 0.5 gallons per square yard of haul road.

Raw Materials Delivery and Storage: Sand and gravel will be delivered by truck and deposited in uncovered stockpiles. As with the haul roads, emission from the deposition of raw materials into the stockpiles and emission from the wind erosion will be controlled with a water spray applied on an as-needed basis. During dry periods, 4 gallons of water will be spray applied to each bin each hour at a rate of 0.5 gallons per minute for wind erosion control and continuously at a rate of 2 gallons per minute during raw material deposition.

Cement will be delivered via dry bulk tanker trucks. These materials will be transferred to the silo pneumatically. Emissions from the filling operation will be controlled with a silo dust collector. For this application, this dust collector is sized for 450 acfm with an efficiency of 99.99%. Dust collected will be discharged into the primary silo.

Raw Material Handling and Processing: Raw materials will be transferred from the storage bays to elevated storage bins via a wheeled loader and conveyor. The drop height from the loader to the

conveyor hopper will be minimized as much as practicable and the conveyor will be fully enclosed to minimize emissions.

The conveyor will discharge the raw materials into one of two elevated bins. These bins will be totally enclosed to manage emissions. No additional emission control devices will be applied to the elevated bins.

Raw materials from the elevated bins will feed into a pug mill where water will be introduced and the roller compacted concrete will be mixed in an enclosed twin shaft mixer. Roller compacted concrete from the pug mill will be discharged into a telebelt or a tri-axle truck via a conveyor.

### SITE INSPECTION

Based on the size and scope of the proposed project for the West Virginia Department of Natural Resources within the Cacapon State Park confines, the writer deemed that a site visit would not be necessary at this time.

Directions: Exit #82A from I-70 near Hancock, MD. Travel South on US522 S for 17.1 miles. Turn right onto Cacapon Lodge Drive and travel 0.1 miles, the facility will be on the left.

### ESTIMATE OF EMISSIONS

Heeter Geotechnical Construction LLC used the provided General Permit G50-B Emission Calculation Spreadsheet for concrete batch plants, G50BECALC, to calculate emissions for the portable concrete batch plant.

The maximum controlled emissions for Heeter Geotechnical Construction LLC's facility are summarized in the following table:

Table 2: G50-B107 Emissions Summary:

Emission Source	Controlled PM Emissions		Controlled PM <sub>10</sub> Emissions	
	lb/hour	TPY*	lb/hour	TPY*
<b>Fugitive Emissions</b>				
Unpaved Haulroad Emissions	14.22	1.40	4.20	0.41
Stockpile Emissions	0.02	0.07	0.01	0.03
<b>Fugitive Emissions Total</b>	<i>14.24</i>	<i>1.47</i>	<i>4.21</i>	<i>0.44</i>
<b>Point Source Emissions</b>				
Transfer Point Emissions	0.69	0.03	0.33	0.02
<b>Point Source Emissions Total (PTE)</b>	<i>0.69</i>	<i>0.03</i>	<i>0.33</i>	<i>0.02</i>
<b>FACILITY EMISSIONS TOTAL</b>				
	<b>14.93</b>	<b>1.50</b>	<b>4.54</b>	<b>0.46</b>

\* Based on 96 maximum operational hours annually

## GENERAL PERMIT ELIGIBILITY

Heeter Geotechnical Construction LLC's application for a concrete batch plant is eligible for a Class II General Permit registration G50-B because:

1. It has the SIC of 2379;
2. It is not a major source as defined in 45CSR14, 45CSR19 or 45CSR30;
3. It is not subject to 45CSR2, 45CSR3, 45CSR14, 45CSR16, 45CSR19, or 45CSR30;
4. It is not a cement manufacturing plant (NAICS 327310; SIC 3241), concrete pipe manufacturing plant (NAICS 327332; SIC 3272) or clay brick or structural clay tile manufacturing plant (NAICS 327121; SIC 3251);
5. It meets the definition of concrete batch plant set forth in DRAFT class II General Permit G50-B;
6. It does not incorporate:
  - a. A mine, quarry or crushing and screening operation;
  - b. A highwall truck dump;
  - c. A petroleum liquid storage vessel or tank greater than 39,889 gallons capacity; or
  - d. A petroleum liquid storage vessel or tank greater than or equal to 19,812 gallons capacity and a working true vapor pressure which exceeds 15.0 kPa (2.17 psia);
7. It will not require an individual air quality permit review process and/or individual permit provisions to address the emission of a regulated pollutant or to incorporate regulatory requirements other than those established by 45CSR7, 45CSR13, and 45CSR17;
8. It is not located in or does not significantly impact the area of Brooke County west of State Route 2, north of an extension of the southern boundary of Steubenville Township in Jefferson County, Ohio and south of the Market Street Bridge;
9. It is not located within the boundaries of or which may significantly impact the Weirton non-attainment area; or
10. It is not located in or which may significantly impact an area which has been determined to be a PM10 maintenance or non-attainment area.

## REGULATORY APPLICABILITY

NESHAPS and PSD have no applicability to the proposed facility. The proposed construction of a ready mix concrete batch plant is subject to the following state and federal rules:

*45CSR7 To Prevent and Control Particulate Matter Air Pollution From Manufacturing Processes and Associated Operations*

The facility is subject to the requirements of 45CSR7 because it meets the definition of "Manufacturing Process" found in subsection 45CSR7.2.20. The facility should be in compliance with Subsection 3.1 (no greater than 20% opacity), Subsection 3.7 (no visible emissions from any storage structure pursuant to subsection 5.1 which is required to have a full enclosure and be equipped with a control device), Subsection 4.1 (PM emissions shall not exceed those allowed under Table 45-7A), Subsection 5.1 (manufacturing process and storage structures must be equipped with a system to minimize emissions), Subsection 5.2 (minimize PM emissions from haulroads and plant premises) when the particulate matter control methods and devices proposed within application G50-B107 are in operation.

*45CSR13 Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation*

The proposed construction is subject to the requirements of 45CSR13 because the facility has the potential to discharge greater than six (6) pounds per hour and ten (10) tons per year, and 144 pounds per day of a regulated air pollutant (PM and PM10), the proposed construction requires an application to construct. The applicant submitted an application fee of \$500 and published a Class I legal advertisement in the *The Morgan Messenger* on August 31, 2016.

*45CSR22 Air Quality Management Fee Program*

This rule establishes a program to collect fees for certificates to operate and for permits to construct, modify or relocate sources of air pollution. Funds collected from these fees will be used to supplement the Director's budget for the purpose of maintaining an effective air quality management program. An Application for a Certificate to Operate (CTO) will be enclosed with the permit at time of issuance as this will be a new construction.

The proposed construction of a concrete batch plant will not be subject to the following state and federal rules:

*45CSR14 Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration*

In accordance with 45CSR14 Major Source Determination, the proposed ready mix concrete batch plant is not listed in Table 1. The facility will have a potential to emit 0.03 TPY of a regulated air pollutant (PM), not including fugitive emissions from haulroads, which is less than the 45CSR14 threshold of 250 TPY. This Berkeley Springs, Morgan County facility is not listed in Table 2, and so fugitive emissions from haulroads are not included when determining source applicability. Therefore, the proposed construction is not subject to the requirements set forth within 45CSR14.

*45CSR30 Requirements for Operating Permits*

The facility's potential to emit will be 0.02 TPY of a regulated air pollutant (PM10), not including fugitive emissions from haulroads, which is less than the 45CSR30 threshold of 100 TPY for a major source.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

A toxicity analysis was not performed because the pollutants that will be emitted from this facility are PM (particulate matter) and PM10 (particulate matter less than 10 microns in diameter), which are non-toxic pollutants.

AIR QUALITY IMPACT ANALYSIS

Air dispersion modeling was not performed due to the size and location of this facility and the limit of the proposed Construction. This facility will be located in Morgan County, WV, which is currently designated as attainment for PM2.5 (particulate matter less than 2.5 microns in diameter).

## RECOMMENDATION TO DIRECTOR

The information contained in this construction application indicates that compliance with all applicable regulations should be achieved when all proposed particulate matter control methods are in operation. Due to the location, nature of the process, and control methods proposed, adverse impacts on the surrounding area should be minimized. Therefore, the granting of a G50-B registration to Heeter Geotechnical Construction LLC for the construction of a concrete batch plant to be located near Berkeley Springs, Morgan County, WV is hereby recommended.

\_\_\_\_\_  
Thornton E. Martin Jr.  
Permit Engineer

\_\_\_\_\_  
October 17, 2016  
Date